

Applicant : Gerardo Castillo et al.
Serial No. : 09/748,748
Filed : December 26, 2000
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Attorney's Docket No.: 017170-0003-999
(712576-999002)

REMARKS

Claims 1-5 and 17-30 are pending. Claims 1, 4 and 5 are amended herein. Claims 6-16 are cancelled. Basis for the amendments can be found in the application and claims as originally filed. No new matter is added.

Claim Rejections under 35 U.S.C. §112, first paragraph: Lack of Enablement

Claims 1-5 and 17-30 are rejected under 35 U.S.C. 112, first paragraph, for lack of enablement. The Office Action alleges that the claims are directed to all amyloid conditions associated with Alzheimer's disease and all amyloid conditions associated with islet amyloid fibrils. It is further alleged that the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. Applicant respectfully requests reconsideration of the rejection in view of the amendments and arguments herein.

Analysis

Applying the Wand factors to the instant claims, as described in detail below, it would not require undue experimentation to practice the instantly claimed subject matter.

Scope of the claims

Claim 1 is directed to a method of treating a disease selected from Alzheimer's disease and type II diabetes, in a mammal suffering therefrom by administration to the mammal of a therapeutically effective amount of a compound described therein. Claims 2-5 and 17-30 depend from claim 1 and further define the method and the compounds used therein.

The level of skill in the art is high

The level of skill in this art is recognized to be high (see, e.g., Ex parte Forman, 230 USPQ 546 (Bd. Pat. App. & Int'l 1986)). In addition, the numerous articles and patents that are of record in this application that are authored by those of a high level of skill for an audience of a high level of skill further evidences the high level of skill in this art.

The amount of direction and guidance presented, teachings in the specification

As described herein, the claims are directed a method of treating Alzheimer's disease and type II diabetes, in a mammal suffering therefrom by administration to the mammal a therapeutically effective amount of a compound described therein. The specification describes on page 16, lines 15-20, that compounds described in the instantly claimed methods act to inhibit

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or prevent amyloid fibril formation, inhibit or prevent amyloid fibril growth, and/or cause disassembly, disruption, and/or disaggregation of preformed amyloid fibrils and amyloid protein deposits. The *in vitro* methods to measure such activity of the compounds within the scope of the instant claims are described in Examples 1 through 4, on pages 21-26 and Assay 1, on page 28. The specification on pages 28-29, also describes an *in vivo* assay (assay 2) to measure the activity of the compounds described in the instantly claimed methods and drug products against Alzheimer's disease in humans. The exemplary embodiments described in the specification demonstrate disassembly/disruption of Alzheimer's disease A β 1-42 fibrils, dose-dependent disassembly/disruption of Alzheimer's disease A β 1-40 fibrils, disaggregation of Alzheimer's disease A β 1-40 fibrils, dose-dependent disaggregation of Alzheimer's disease A β 1-40 fibrils and disassembly/disruption of islet amyloid fibrils (amylin) by several compounds within the scope of instant claims. The specification also discloses that further *in vitro* and *in vivo* assays may be used to test the compounds for their effectiveness in the treatment of Alzheimer's disease, such as those described in European Published Patent Application No. 0 659 418. Therefore, the application provides sufficient guidance for one of skill in the art to make and use the full scope of the instantly claimed subject matter.

Presence of working examples and knowledge in the art

The application provides working examples to demonstrate the instantly claimed methods of treating Alzheimer's disease and type II diabetes. Examples 1-4 in the specification illustrate:

- i) disassembly/disruption of Alzheimer's disease A β 1-42 fibrils by the compounds used in the instantly-claimed methods and drug products,
- ii) dose-dependent disassembly/disruption of Alzheimer's disease A β 1-40 fibrils by tannic acid and gallic acid which are within the scope of the compounds used in the instant claims,
- iii) disaggregation of Alzheimer's disease A β 1-40 fibrils by the compounds used in the instantly-claimed methods and drug products,
- iv) dose-dependent disaggregation of Alzheimer's disease A β 1-40 fibrils by tannic acid and gallic acid which are within the scope of the compounds used in the instant claims. The specification also provides *in vitro* and *in vivo* assays to test the compounds for their effectiveness in the treatment of Alzheimer's disease.

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Further, as described in the application and known to one of skill in the art, 90% of patients with type II diabetes demonstrate deposition of amyloid fibrils in islets of Langerhans in the pancreas. As described in example 5, the compounds within the scope of the instant claims cause disassembly/disruption of islet amyloid fibrils.

Conclusion

As discussed above, the instant specification describes and exemplifies methods to treat Alzheimer's disease and type II diabetes. The working examples in the specification demonstrate disassembly/disruption of Alzheimer's disease A β 1-42 fibrils, dose-dependent disassembly/disruption of Alzheimer's disease A β 1-40 fibrils, disaggregation of Alzheimer's disease A β 1-40 fibrils, dose-dependent disaggregation of Alzheimer's disease A β 1-40 fibrils and disassembly/disruption of islet amyloid fibrils (amylin) by several compounds within the scope of the instant claims. Therefore, in light of the scope of the claims, the description and the working examples in the application, and the high level of skill of those in this art, it would not require undue experimentation to practice the full scope of the claims. Applicant respectfully requests reconsideration and removal of the rejection.

In view of the above, allowance of the application is respectfully requested.

Applicant hereby petitions under 37 C.F.R. §1.136 for three (3) months extension of time. Please apply fees for the extension of time and Notice of Appeal (\$510.00 + \$250.00 = \$760.00) and any other charges, or any credits, to Deposit Account 50-3013.

Respectfully submitted,

Date: _____

9/8/05



Dale L. Rieger
Reg. No. 43,045

Jones Day
12750 High Bluff Drive, Suite 300
San Diego, California 92130
858-314-1188 (direct)
858-314-1200 (main)
858-314-1150 (facsimile)
drieger@jonesday.com